REMARKS

The Examiner is thanked for the performance of a thorough search.

By this amendment, independent Claims 1, 12, 14, and 25 have been amended to include

the features of dependent Claims 10 and 23. Claims 10 and 23 have been cancelled. No claims

have been added. Hence, Claims 1-9, 11-22, and 24-26 are pending in this application.

Claim Rejection – 35 U.S.C. § 102(e)

Claims 1-26 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by

U.S. Publication No. 2002/0178254 by Brittenham et al. ("*Brittenham*"). Claims 1, 12, 14, and

25 have been amended herein to make explicit one or more implicit distinctions between the

invention claimed herein and the approach of *Brittenham*.

Independent Claim 1 is patentable over *Brittenham*

With regard to independent Claim 1, there is recited:

> In a process comprising at least one activity, a computer implemented method for
> performing an activity, comprising:
> receiving a message to perform an activity which calls for invocation of a service
> provided by a service application, said service being invocable using a
> protocol;
> obtaining a service definition for said service, wherein the service definition
> comprises mapping information that maps one or more attributes
> associated with said activity to one or more parameters used by said
> service,
> executing a set of logic which implements said protocol to generate a service
> invocation, wherein said service invocation is generated based upon, at
> least a portion of, said mapping information in the service definition, and
> is in compliance with said protocol; and
> sending said service invocation to said service application to invoke said service
> (emphasis added).

Claim 1 provides an advantageous method for performing an activity. According to

Claim 1, a message to perform an activity that calls for the invocation of a service is received. A

service definition for the service is obtained. The service definition comprises mapping

information that maps one or more attributes associated with the activity to one or more

parameters used by the service. A service invocation is generated based upon at least a portion

of the mapping information in the service definition. The generated service invocation is sent to

a service application to invoke the service.

By encapsulating the logic that maps one or more attributes associated with the activity to

one or more parameters used by the service in the mapping information, when the requirements

of the service change, the mapping information may be updated to reflect the requirements of the

changed service without developing new code to support the invocation of the changed service.

In this way, substantial time and effort for developing new code to support the changed service is

avoided. Further, since the information contained in the service definition is fairly basic, in

terms of substance and technical complexity, the service definition may be created by a relatively

low-skilled end user, rather than a highly skilled technical specialist.

Such a method is neither disclosed nor suggested by *Brittenham*. Instead, *Brittenham*

discloses an approach for dynamically deploying services in a computing network. When

requests for the service from a specified location exceed a specified threshold, the service may be

moved to reside at or near the specified location to improve efficiency (Abstract). Since the

location where a service resides may change, when a requestor wishes to use a service, the

requestor must determine the location of the service. (See paragraphs 47-48). In the approach of

Brittenham, a requestor may receive information (referred to by *Brittenham* as a "service

definition") that describes where a service may be found. For example, a reference to a URL of

a particular node supporting a service may be sent to the requestor so that the requestor may determine to which node the requestor should send a service request (see paragraphs 47-48 of *Brittenham*). If the specified threshold has been exceeded, an interface definition (which may be written in WSDL) may be used to generate a SOAP request to move the service to reside at or near the specified location.

Significantly, while both the pending claims and the *Brittenham* reference describe an approach using the term "service definition," the meaning ascribed to the term in each case is markedly different. Claim 1 features the element of "obtaining a service definition for said service, wherein the service definition comprises mapping information that maps one or more attributes associated with said activity to one or more parameters used by said service."

In sharp contrast, *Brittenham* ascribes a different meaning to the term "service definition." The single occurrence of the term "service definition" within *Brittenham* states: "[a]ccording to preferred embodiments of the present invention, the resolved service definition will contain end point information which references the URL of deployment node 260 (thereby causing client 210 to send its subsequent request to the DN)" (paragraph 48). This portion, and the surrounding description, uses the term "service definition" to refer to the information sent to a requesting client to identify where a service may be located. Thus, a service definition, as used by *Brittenham*, does not comprise any mapping information that maps one or more attributes associated with an activity to one or more parameters used by a service.

It should be noted that a WSDL document is not analogous to a service definition. A WSDL document is an XML document that describes how a web service may be invoked, e.g., a WSDL document may describe the operations performed by the web service, the messages used by the web server, the data types used by the web service, and the communication protocols used

by the web service. Essentially, the WSDL document provides somebody with all the information necessary to invoke the service defined in the WSDL document. To illustrate, if a web service is directed towards providing an automated credit check, the WSDL document may define the following parameters for the service:

Input parameter: Name

Parameter type: String

Input parameter: Social Security Number

Parameter type: Integer

Output Parameter: Decision

Parameter type: Boolean

A WSDL document is designed to be used by multiple entities to allow each entity to invoke the web service defined by the WSDL document. Thus, the WSDL document does not contain a mapping of one or more parameters used by the service to any activity performed by a particular entity, since that would defeat the purpose of the WSDL document.

On the other hand, the service definition of Claim 1 comprises mapping information that maps one or more attributes associated with an activity to one or more parameters used by the service. To illustrate using the above example, suppose that the corresponding attributes associated with the activity are "customer," "customer number," and "status." The mapping information may then indicate the following:

Input parameter: Name maps to Customer

Parameter type: String

Input parameter: Social Security Number maps to Customer Number

Parameter type: Integer

Output Parameter: Decision maps to Status

Parameter type: Boolean

The mapping information shown above is used in generating the service invocation by allowing the attributes of the activity to be correlated with the parameters of the service. Such mapping information is not present in a WSDL document, such as the WSDL documents of FIGs. 5A-5C.

For at least the above reasons, it is respectfully submitted that no portion of *Brittenham* discloses, teaches, or suggests the element of "obtaining a service definition for said service, wherein the service definition comprises mapping information that maps one or more attributes associated with said activity to one or more parameters used by said service" featured in Claim 1. As a result, it is respectfully submitted that no portion of *Brittenham* disclosed, teaches, or suggests the element of "executing a set of logic which implements said protocol to generate a service invocation, wherein said service invocation is generated based upon, at least a portion of, said mapping information in the service definition, and is in compliance with said protocol" also featured in Claim 1 because the service invocation is generated based upon, at least a portion of, the mapping information in the service definition.

As at least one element recited by Claim 1 is not disclosed, taught, or suggested by *Brittenham*, the Applicant submits that Claim 1 is patentable over *Brittenham* and is in condition for allowance.

Independent Claim 12 is patentable over *Brittenham*

With regard to independent Claim 12, there is recited:

> A computer implemented method for performing one or more activities, comprising:

receiving a first message to perform a first activity which calls for invocation of a first service provided by a first service application;

obtaining a service definition for said first service, wherein the service definition comprises mapping information that maps one or more attributes associated with said activity to one or more parameters used by said service, and wherein said service definition for said first service comprising an indication that a first protocol is to be used to invoke said first service;

selecting a first set of logic based upon said indication in said service definition for said first service, said first set of logic implementing said first protocol;

executing said first set of logic to generate a first service invocation, wherein said first service invocation is generated based upon at least a portion of said service definition for said first service, and is in compliance with said first protocol; and

sending said first service invocation to said first service application to invoke said first service. (emphasis added)

As explained above with respect to Claim 1, *Brittenham* does not disclose, teach, or suggest a service definition as claimed. Claim 12 also recites the feature of "obtaining a service definition for said first service, wherein the service definition comprises mapping information that maps one or more attributes associated with said activity to one or more parameters used by said service, and wherein said service definition for said first service comprising an indication that a first protocol is to be used to invoke said first service." Consequently, it is respectfully submitted that, for at least the reasons given above with respect to Claim 1, that Claim 12 is also not disclosed, taught, or suggested by the cited art. Thus, Claim 12 is patentable over the cited art, and is in condition for allowance.

Claims 2-9, 11, 13-22, and 24-26

Independent Claim 14 contains features similar to that discussed above with reference to Claim 1, except that Claim 14 is recited in computer-readable medium format. Consequently, it

is respectfully submitted that for at least the reasons given above with respect to Claim 1, that Claim 14 is patentable over *Brittenham* and is in condition for allowance.

Independent Claim 25 contains features similar to that discussed above with reference to Claim 12, except that Claim 25 is recited in computer-readable medium format. Consequently, it is respectfully submitted that for at least the reasons given above with respect to Claim 12, that Claim 25 is patentable over *Brittenham* and is in condition for allowance.

Claims 2-9, 11, 13, 15-22, 24, and 26 are dependent claims, each of which depends (directly or indirectly) on one of the claims discussed above. Each of Claims 2-9, 11, 13, 15-22, 24, and 26 is therefore allowable for the reasons given above for the claim on which it depends. In addition, each of Claims 2-9, 11, 13, 15-22, 24, and 26 introduces one or more additional limitations that independently render it patentable. However, due to the fundamental differences already identified, to expedite the positive resolution of this case a separate discussion of those limitations is not included at this time, although the Applicants reserve the right to further point out the differences between the cited art and the novel features recited in the dependent claims.

CONCLUSION

It is respectfully submitted that all of the pending claims are in condition for allowance

and the issuance of a notice of allowance is respectfully requested. If there are any additional

charges, please charge them to Deposit Account No. 50-1302.

The Examiner is invited to contact the undersigned by telephone if the Examiner believes

that such contact would be helpful in furthering the prosecution of this application.

Respectfully submitted,

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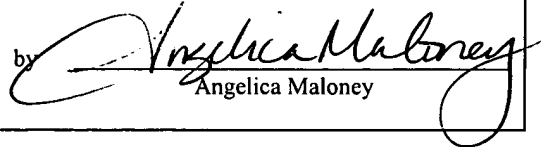Reg. No. 45,620
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on February 8, 2005   by _____ Angelica Maloney